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The ABBA project (Assess Better Before Access): A retrospective study of neonatal intravascular device outcomes**Matheus F.P.T. van Rens***Hamad Medical Corporation, Qatar*

Background: Vascular Access Devices (VADs) play a vital role within the Neonatal Intensive Care Unit (NICU). However, VAD-use is not without significant risks, with complications such as infection, thrombosis, device occlusion and infiltration/extravasation frequently contributing to device-related failures.

Methods: A retrospective, cross-sectional, single-center study in a large 112-bed NICU in Qatar that routinely collected intravenous device data from January 2016 to December 2018 was evaluated. The outcome of interest was to identify and evaluate the relationships between unmodifiable and potentially modifiable factors and Assess the situation and patients Better Before initiating vascular Access (ABBA), potentially reducing unwarranted complication rates leading to therapy failure within the neonatal setting.

Results: During the study period, 23858 VADs were inserted. Of these, 89.3% were Peripheral Intravenous Catheters (PIVCs). Infants who received a peripheral device were slightly older, with a median age of 8 (+/-5) days, when compared to all infants receiving a central device, with a median age of 6 (+/-4) days. Univariate logistic regression analyses identified 10 variables demonstrating significant relationships to device-related outcomes. The risk for the development of a VAD-related complication was the highest amongst the peripheral vascular access devices when compared to CVADs, including Central Line Associated Blood Stream Infections (CLABSI).

Conclusion: Four subgroups of VAD were identified (peripheral intravenous catheters, extended dwell-peripheral intravenous devices, epicutaneo-caval catheters and umbilical venous catheters). Central vascular access (epicutaneo-caval catheters and umbilical venous catheters) had the least reported complications. Future research toward improving patient and intravenous therapy-related outcomes plays an important role. It requires a focus on innovations and clinical advancements in the world of neonatology and vascular access devices.

Biography

Matheus ('Roland') van Rens has over twenty years clinical experience in neonatal nursing and holds a MA in Advanced Nursing Practice (Ma ANP), from Erasmus University, the Netherlands. He has worked as an advanced neonatal nurse practitioner, performing complex vascular access procedures, developed, and delivered multi-professional education activities and carried out clinical research in Europe and more recently in the Middle East. Latterly as a Clinical Director of Nursing for the New-born Intensive Care Unit (NICU) at Women's Wellness and Research Center, Qatar. His research engages with issues around improving neonatal care, most notably around the broad topic of vascular access. With his international research collaborators and co-authors, he has presented at international conferences and published several referred journal articles concerning neonatal vascular access, infusion therapy and related technology. Currently, he is preparing for his PhD study in the Netherlands.